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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,897	01/25/2006	Takuro Hirakimoto	3712174.00507	7932

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EXAMINER	
ARCIERO, ADAM A	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
08/17/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

chicago.patents@klgates.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,897	HIRAKIMOTO ET AL.	
	Examiner	Art Unit	
	ADAM A. ARCIERO	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-33 and 35-52* is/are pending in the application.

4a) Of the above claim(s) *39-52* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-33 and 35-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/21/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

IONIC CONDUCTOR, METHOD OF MANUFACTURING THE SAME, AND ELECTROCHEMICAL DEVICE

Examiner: Adam Arciero S.N. 10/565,897 Art Unit: 1795 August 12, 2010

DETAILED ACTION

1. The Applicant's amendment filed on June 02, 2010 was received. Claims 27-33 and 35-52 are currently pending. Claims 39-52 are withdrawn from consideration. Claim 27 has been amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 103

3. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Uetake and Komiya on claims 27-33 and 35-38 are withdrawn because Applicant has amended the claims.

4. Claims 27-33 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uetake (WO 02/058177), see correspond Uetake (US Patent 7,226,699 for translation) in view of Komiya (US 2004/013925 A1) and Nuber et al. (US 2003/0148161 A1).

As to Claims 27-29 and 35-38, Uetake discloses proton conductor (ionic conductor) comprising a proton dissociative group (ion-dissociative group) bonding to a fullerene group (derivative carbonaceous substance) and polyvinyl alcohol, polyvinylidene fluoride and polyfluoroethylene (polymer comprising a basic group) (column 4 lines 60-68, column 5 lines 1-

25 and column 10 lines 35-40). The fullerene derivative and the polyvinyl alcohol are dissolved in an organic solvent and printed. The water is vaporized off to formulate a proton conductor film (ion conductor) (column 11 lines 47-60). Uetake does not specifically disclose wherein the polymer of said substance having said basic group is a polymer of a compound containing at least any one of a nitrogen atom, an oxygen atom and a sulfur atom.

However, Komiya teaches of a proton conductive solid polymer electrolyte comprising a polymer having a basic group and containing at least one of a nitrogen atom, an oxygen atom and a sulfur atom, such as polyvinylimidazole (pg. 3, [0035]). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the proton conductor of Uetake with polyvinylimidazole, because Komiya teaches that the proton conductivity of a polymer electrolyte for a fuel cell is improved (pg. 4, [0040]-[0041]).

Uetake and Komiya disclose heating methods for producing the proton conductors, however they do not specifically disclose wherein an ion complex is formed between the derivative and the polymerized substance having the basic group.

However, Nuber et al. teaches of a method for producing a proton conductor comprising a polymerization method using heat over a certain period of time (paragraph [0060]). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the proton conductor of Uetake and Komiya by performing a polymerization on the proton conductor components, because Nuber et al. teaches that a proton conductor for a fuel cell can be produced with optimal proton conductivity as well as thermal and chemical stability (including water insolubility) (paragraph [0069]). Furthermore, it is the position of the Examiner that an ion complex is formed between the derivative and the polymerized substance having the basic

group, given that the materials and method for making disclosed by the prior arts and the present application are the same. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. *In re Robertson*, 49 USPQ2d 1949 (1999).

As to Claim 30, Uetake discloses a proton dissociative group (ion-dissociative group) is an acidic functional group (column 5 lines 9-15).

As to Claim 31, Uetake discloses the proton dissociative group introduced to the carbon atoms and polyvinyl alcohol in an amount not less than about 20% (col. 10 lines 25-35).

As to Claim 32, Uetake discloses a proton conductor comprising a proton dissociative group $-SO_3H$ (ion-dissociative group) (column 5 lines 9-14). It is well known in the art that hydrogen (H) is a cation producible group.

As to Claim 33, Uetake discloses a proton conductor comprising a functional group $-OPO(OH)_2$. It is well known in the art that hydrogen (H) is a cation producible group.

Response to Arguments

5. Applicant's arguments with respect to claims 27-33 and 35-38 have been considered but are moot in view of the new ground(s) of rejection as necessitated by Applicant's amendments to the claims.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 8am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adam A Arciero/
Examiner, Art Unit 1795

/Stephen J. Kalafut/
Primary Examiner, Art Unit 1795